

Connections

Will you stop it already?!



“Unless it’s an emergency, don’t bother me after 6:00p.m. and on weekends.”

-Merv Griffin

As New England Drives & Controls constantly strives to become a better asset to our customers, our whitepaper series will feature new technologies or helpful insights that may be pertinent to the reader. It is our sincere hope that this information will be beneficial in both relating, and applying content to your industrial needs.

We hope you find this whitepaper series an enjoyable and informative read.

We always welcome your questions and comments.

Those who often read these technical snippets know that I often try to comment tongue in cheek, ever to elicit a subtle chuckle, but this month’s topic is about something requiring a bit more seriousness. How to stop a machine, device or process immediately when something goes dangerously wrong!

An Emergency Stop switch or E-Stop as it is commonly called seems like a simple concept. You trigger the switch and the machine stops, and cannot continue until the reason for triggering the switch is no longer present and the switch is



reset. This link in the chain is used to provide both machine and personnel safety. Obviously, it also brings to attention the entire safety circuit of a machine design. But lets just consider the switch themselves; There are many types of “E-Stops” and each has its own raison d’etre. There is also a difference between a stop button and an E-Stop. Generally, an E-Stop has a red “button”



and a yellow background. Depending on the application it may or may not also carry the text “Emergency Stop” on it. Once actuated, the switch requires a reset, either by pulling it back into position, twisting it, or using a key to return it into an operational state. Some can also be locked out,

preventing the operation of the machine it is connected to.

A E-Stop should only be actuated in an emergency. It should not be used as a Start/Stop process for the machine. (We’ve all seen someone use it this way.)

A regular “Stop” Switch can be any color and does not need to meet the standards that an “E-Stop” does. For example, it may stop the operation of a component, but it does not render the machine completely inert. This is the job of the E-Stop.

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E-Stops can however have many options. As mentioned earlier, the method of their reset is one such option. Some E-Stop modules also illuminate indicating their status or which module is tripped. This can be quite beneficial on a machine that has multiple E-Stops installed on it, making checking and resetting an easier task for the person

responsible for the machine's operational safety.

Always make sure that the E-Stop you select meets the needs of the application, and also the requirements of the safety circuit behind it.

There are many standards to consider. Some important standards include: IEC60947-5-1 and EN60947-5-5, VDE0660, UL508, CSA: C22.2 No. 14-95, and NEMA Type 4X,12. These are commonly used in the United States while other standards and ratings organizations for other countries exist as well.



As simple a concept as the E-Stop is, there is often a lot of question on how to apply, use, and comply with local laws, and engineering best practices. Let New England Drives & Controls, Inc. put you in contact with experts in this area from the proper people we partner with to provide both a safe and quality product for your specific application.

-Peter Lavoie (Engineering Manager)



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